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EXAMINER

BUMGARNER, MELBA N

ART UNIT PAPER NUMBER

3732

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/088,001

Applicant(s)

JOOS, ULRICH

Examiner

Melba Bumgamer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because legal phraseology often used in patent claims, such as "means" and "said," should be avoided and phrases which can be implied, such as, "The invention is characterized" should be avoided.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-6 and 8-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, the constant (K) does not show an equation. In claim 5, it is not clear how the length of the root part correlates with a pitch of the outer thread. The specification shows values of pitch for given lengths, but not a correlation. In claims 5 and 8, the claims are directed to an implant; however, limitation d) and limitation b), respectively, are not, i.e. the length of the implant does not increase. In claim 8, it is unclear what part of the implant has "the maximum radius". In claims 9-11, the use of the alternative language is confusing. Also in claim 11, it is unclear as to what shape is "is widened or narrowed in a trumpet shape or conically". In claim 13, it is unclear what is meant by ceramic-like material, and it is suggested to insert —other—before "metal alloys".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Huang (5,984,681). Huang discloses a dental implant 10 comprising a bottommost implant tip 16 located at an apex, a root part which extends to the tip, is intended to be fitted in a jawbone, and has a parabolic outer contour with the tip as vertex, an implant neck adjoining the root part, which extends in the coronal direction and is intended to lie inside the gingiva and an outer thread 18 provided on the root part, wherein the root part has the contour along its entire length and a theoretical ridge line at which it adjoins the neck (figure 7). As to claim 2, figure 3 shows the outer thread has an outer contour extending parallel to the contour of the root part and appears to end at a distance between about 1 to 2 mm from the ridge line. As to claim 10, the implant neck is made of titanium (column 4 line 23).

6. Claims 1, 3, 4, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Moisiadis (DE 4041378). Moisiadis discloses a dental implant 10 comprising a bottommost implant tip located at an apex, a root part 14 which extends to the tip, is intended to be fitted in a jawbone, and has a parabolic outer contour with the tip as vertex, an implant neck adjoining the root part, which extends in the coronal direction,

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and an outer thread 16 provided on the root part, wherein the root part has the contour along its entire length and a theoretical ridge line at which it adjoins the neck (figure 1). Patentable weight is not given to the intended use of the neck. As to claim 3, as understood, the root part at the ridge has a maximum radius extending in the radial x-direction, the parabolic outer contour follows the parabolic equation, not giving weight to value of K. As to claim 4, the maximum radius is between 1 mm and 3 mm, at least for the smaller implants of Moisiadis. As to claim 10, the implant neck is made of titanium (column 2 line 67).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 5, 11 and 12 are rejected, as understood, under 35 U.S.C. 103(a) as being unpatentable over Moisiadis. Moisiadis discloses a dental implant that shows the limitations as described above, the outer thread has an outer contour extending parallel to the contour of the root part, and the outer thread ends at a distance from the ridge line; however, Moisiadis does not show the distance being 1 mm to 4 mm. It would have been an obvious matter of choice to one of ordinary skill in the art as to the specific distance of the outer thread end from the theoretical ridge line, as it is not disclosed as critical to the claimed invention. As to claim 5, Moisiadis discloses the outer thread being self-cutting, the length of the root part "correlates" with the pitch, and

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the outer thread ends at a distance from the ridge line. It would have been an obvious matter of choice to one of ordinary skill in the art as to the distance in implants of other sizes and the specific range of the distance, as it is not disclosed as critical to the claimed invention. As to claim 11, Moisiadis discloses the implant neck being cylindrical; however, Moisiadis does not show the neck having a height in the range of 1 to 3 mm. It would have been an obvious matter of choice to one of ordinary skill in the art as to the specific range of the height of the neck. The specific range is not disclosed as critical to the claimed invention. As to claim 12, it would have been an obvious matter of choice to one of ordinary skill in the art as to the specific range of the maximum radius, as this narrower range is not disclosed as critical to the claimed invention.

9. Claims 6-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moisiadis in view of Mochida et al. (5,642,996). Moisiadis discloses a dental implant that shows the limitations as described above; however, Moisiadis does not show the dimension of the pitch. Mochida et al. teach a dental implant having length of the root part of 8 mm and pitch between 0.8 – 1.7 mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pitch as in Mochida et al. in order to have the optimum thread pitch, too large a pitch makes for a large implant and too small a pitch crumbles the bone in view of Mochida et al. It would have been an obvious matter of choice to one of ordinary skill in the art as the implant having varying lengths of the root part as it is known in the art to provide different sizes of implants. As to claim 7, Moisiadis discloses a dental implant that shows the limitations as described above and the outer thread includes thread teeth;

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however, Moisiadis does not show dimensions of the thread teeth. Mochida et al. teach a dental implant comprising the outer thread including thread teeth, the thread teeth at the root part having a height of about 0.3 mm and a length in the range of from 0.2 mm to 0.4 mm (figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the size of teeth of Mochida et al. in order to provide an implant with good bearing capacity in the bone and high affinity with the bone in view of Mochida et al. As to claim 8, as understood, the modified implant may have the maximum radius of 2 mm, and length of root part, length of thread teeth and height of thread teeth as above. As to claims 9 and 13, Moisiadis shows the implant made of biocompatible material of titanium; however, Moisiadis does not show the root part having a rough surface. Mochida et al. teach a dental implant comprising a root part having a rough surface, which is ceramic-coated (column 5 lines 14, 44). It would have been obvious to one having ordinary skill in the art to modify the dental implant of Moisiadis to be ceramic-coated as in Mochida et al. in order to enhance the development of the bond between the implant and the bone in view of Mochida et al.

10. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Mochida et al. Huang discloses a dental implant that shows the limitations as described above and the implant made of biocompatible material of titanium; however, Huang does not show the root part having a rough surface. Mochida et al. teach a dental implant comprising a root part having a rough surface, which is ceramic-coated (column 5 lines 14, 44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the dental implant

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of Huang to be ceramic-coated as in Mochida et al. in order to enhance the development of the bond between the implant and the bone in view of Mochida et al.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fernandes (5,603,616) is cited to show the state of the art with respect to a dental implant.

12. Any inquiry concerning this communication from the examiner should be directed to Melba Bumgarner whose telephone number is 703-305-0740. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (703) 308-2582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



Melba Bumgarner
Patent Examiner